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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,623

04/21/2006

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40152

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52054 7590 12/11/2008
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EXAMINER

FANG, PAKEE

ART UNIT

PAPER NUMBER

4146

NOTIFICATION DATE

DELIVERY MODE

12/11/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/576,623	Applicant(s) SHIBATA, HIROYUKI	
	Examiner PAKEE FANG	Art Unit 4146	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/21/2006 & 11/07/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. **Claims 1 - 11 are presented for examination.**

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 04/21/2006 & 11/07/2008 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

3. Claims 2 & 6 are objected to because of the following informalities: “*a vehicle ahead*” and “*a vehicle equipped*” should be rewrite as “a vehicle ahead” and “another vehicle equipped” to separate the distinction between the two vehicles. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3, & 7 are rejected under 35 U.S.C. 102(e) as being unpatentable over Sato et al. (US Pub. 20030108222)

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In regard to claim 1, *a vehicle outside-image display apparatus, comprising;* see at least (Sato; Fig. 22, Item 14; [0016]) – for a vehicle outside image display. "...a display means for displaying the image created by the image creating means." [0016]

a vehicle outside-image capturing unit that captures a vehicle's outside image by a camera; (Sato; Fig. 22, Item 16; [0125]) – for a storage unit captures or storages outside image by a camera. "The storage device 16 is a device for storing images imaged by the blind spot camera 13a and the driver's viewpoint camera 13b, in which the images outputted from the blind spot camera 13a and the driver's viewpoint camera 13b are continuously stored..."[0125]

an image receiving unit that receives vehicle outside-image information from outside; (Sato; Fig. 22, Item 161 or 162; [0125]) – for an image receiving unit or memory unit that receives vehicle outside information from outside. "...an outside image data memory 162 for storing an image obtained by the blind spot camera 13a as the different imaging means, a viewpoint image data memory 161 for storing a viewpoint image obtained by the driver's viewpoint camera 13b..." [0125]

an image combining unit that combines the vehicle outside-image information received by the image receiving unit with the image captured by the vehicle outside-image capturing unit; (Sato; Fig. 22 & 27, Item 163; [0125]) – for a combination image data memory combines the outside image received by the receiving unit or memory unit with image stored by the storage

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unit. "...163 for storing an image in which the viewpoint image and a converted outside image generated by the image data memory 162 are combined." [0125]

and an image display device that displays renewed vehicle outside-image information produced by the image combining unit. (Sato; Fig. 22, Item 14; [0125 -0127]) – for a display that displays a freshly combined image base on the information produced by the image combination unit. "...liquid crystal display or the like, on which a combination image stored in the combination image data memory 163 is displayed." [0126]

In regard to claim 3, *wherein the image combining unit combines a portion of the vehicle outside-image information received by the image receiving unit with the image captured by the vehicle outside-image capturing unit.* (Sato; Fig. 22 & 27, Item 14; [0125]) – for a combining unit which combines at least a portion of the information receiving unit with the image stored by the storage unit. "...a combination image data memory 163 for storing an image in which the viewpoint image and a converted outside image generated by the image data memory 162 are combined." [0125]

In regard to claim 7, *further comprising: a measurement value receiving unit that receives a three-dimensional measurement value from outside;* See at least (Sato; Fig. 4; [0020 & 0089]) – for a receiving unit which receive 3-dimensional data from the peripheral area of the vehicle. "a car body data storage means for storing car body data of the vehicle, in which the predetermined distance is determined based on the data stored in the car body data storage

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means” [0020] & “The car body data includes three-dimension data of the car body, distance to each part of the vehicle, length of the parts, and the like.” [0089]

and a viewpoint converting unit that converts the vehicle outside-image information to have a viewpoint from the camera based on the three-dimensional measurement value received by the measurement value receiving unit; See at least (Sato; Fig. 24 & 27; [0028 & 0111 & 0132]) – for a converting means that convert image obtain outside by camera 13 based on the three-dimensional information of the car data received by a receiving mean. “...viewpoint has been converted by the imaged image converting means with the image region obtained by the car body image region obtaining means whose viewpoint has been converted by the imaged image converting means...” [0028]” & “...when the camera 13 is provided in a position apart from the viewpoint position of the driver, but the camera 13 may be provided near the viewpoint position.” [0111] & “...viewpoint conversion processing is performed based on car body data previously stored so as to process the image to an image seen from the viewpoint position.” [0132]

and supplies the converted information to the image combining unit. See at least (Sato; Fig. 24 & 27; [0125]) – for the converted information is send to the combining means for combining. “...the viewpoint image and a converted outside image generated by the image data memory 162 are combined...” [0125]

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 4, & 9 -11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US Pub. 20030108222) in view of Sakamoto et al. (US 6879241 B2).

In regard to claim 2, *wherein the image receiving unit receives the vehicle outside-image information from a vehicle ahead of a vehicle equipped with the vehicle outside-image display apparatus*. Sato discloses a receiving unit can receive images from multiple cameras on different locations in system. See at least (Fig. 22 – 27; [0125 -0135]) “The storage device 16 is a device for storing images imaged by the blind spot camera 13a and the driver's viewpoint camera 13b, in which the images outputted from the blind spot camera 13a and the driver's viewpoint camera 13b are continuously stored...” [0125] but, fails to disclose the receiving unit can receive

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information from one vehicle to another vehicle. However, Sakamoto discloses a system for sharing information between vehicles by means of communication then displaying the information with other vehicles. See at least (Fig. 50; Col. 18, line 4 -7) "...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data..." Sakamoto further discloses on Fig. 50 where a vehicle ahead of another vehicle transmitting data to each other. Since both inventions are analogous art addressing a vehicle system, Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the image receiving unit of Sato with the peripheral communication network for vehicles of Sakamoto to improve the image receiving unit in order to receive information and images of an external device, because this will allow the system to gather more essential information from other sources to better enhance the user's knowledge of the surrounding.

In regard to claim 4, *further comprising an image transmitting unit that transmits the renewed vehicle outside-image information produced by the image combining unit to outside;* Sato discloses a CPU transmits the renewed vehicle outside image produced by the image combining unit to a display, "...liquid crystal display or the like, on which a combination image stored in the combination image data memory 163 is displayed." & "The CPU 121 performs various computing processing such as obtaining information on the moving distance and an orientation of the vehicle obtained by the current position detecting device 15, and obtaining

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viewpoint image data and outside image data from the storage device 16 so as to generate combination image data from these data.” [0126 -0127], but fails to disclose the information is being transmitted to outside. However, Sakamoto discloses a transmitting unit can transmit information between vehicles (Fig. 50; Col. 18, line 4 -7) “...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data...” Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the transmission technique of Sakamoto with the image processing technique of Sato to improve transmission of the vehicle in order to receive/send information and images to an external device, because this will allow the system to gather/transmit more essential information from other sources to better enhance the user’s knowledge of the surrounding.

In regard to claim 5, *wherein the image transmitting unit transmits the renewed vehicle outside-image information produced by the image combining unit to a rearward vehicle relative to a vehicle equipped with the vehicle outside-image display apparatus.* Sato discloses a CPU transmits the renewed vehicle outside image produced by the image combining unit to a display, “...liquid crystal display or the like, on which a combination image stored in the combination image data memory 163 is displayed.” & “The CPU 121 performs various computing processing such as obtaining information on the moving distance and an orientation of the vehicle obtained by the current position detecting device 15, and obtaining viewpoint image data and outside

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image data from the storage device 16 so as to generate combination image data from these data.” [0126 -0127], but fails to disclose the information is being transmitted to rearward vehicle equipped with the similar system. However, Sakamoto discloses a transmitting unit can transmit information between vehicles in a similar system. (Fig. 50; Col. 18, line 4 -7) “...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data...”; Sakamoto further disclose the rearward vehicle receive the same information as the another vehicle on Fig. 50. Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the transmission technique of Sakamoto with the image processing technique of Sato to improve transmission of the vehicle in order to receive/send information and images to an external device, because this will allow the system to gather/transmit more essential information from other sources to better enhance the user’s knowledge of the surrounding.

In regard to claim 9, *further comprising a measurement value transmitting unit that transmits a renewed three-dimensional measurement value produced by the measurement value combining unit to outside*. Sato discloses a CPU and other transmitting means to transmit a renewed three-dimensional information of the Car body data produced by combining means to be displayed (fig.27), “The CPU 121 performs various computing processing such as obtaining information on the moving distance and an orientation of the vehicle obtained by the current position detecting device 15, and obtaining viewpoint image data and outside image data from

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the storage device 16 so as to generate combination image data from these data.” [0126 -0127] & “...viewpoint conversion processing is performed based on car body data previously stored so as to process the image to an image seen from the viewpoint position.” [0132], but fails to disclose the information is being transmitted to outside. However, Sakamoto discloses a transmitting unit can transmit information outside of the system. (Fig. 50; Col. 18, line 4 -7) “...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data...” Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the transmission technique of Sakamoto with the image processing technique of Sato to improve transmission of the vehicle in order to transmit information and images to an external device, because this will allow the system to transmit more essential information from other sources to better enhance the user’s knowledge of the surrounding.

In regard to claim 10, *wherein the measurement value transmitting unit transmits the renewed three-dimensional measurement value produced by the measurement value combining unit to a rearward vehicle relative to the vehicle equipped with the vehicle outside-image display apparatus*. Sato discloses a CPU and other transmitting means to transmit a renewed three-dimensional information of the Car body data produced by combining means to be displayed (fig.27), “The CPU 121 performs various computing processing such as obtaining information on the moving distance and an orientation of the vehicle obtained by the current position detecting

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device 15, and obtaining viewpoint image data and outside image data from the storage device 16 so as to generate combination image data from these data.” [0126 -0127] & “...viewpoint conversion processing is performed based on car body data previously stored so as to process the image to an image seen from the viewpoint position.” [0132], but fails to disclose the information is being transmitted to outside. However, Sakamoto discloses a transmitting unit can transmit information between vehicles. (Fig. 50; Col. 18, line 4 -7) “...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data...” Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the transmission technique of Sakamoto with the image processing technique of Sato to improve the transmission of the vehicle in order to transmit information and images to an external device, because this will allow the system to transmit more essential information from other sources to better enhance the user’s knowledge of the surrounding.

In regard to claim 11, *wherein the image receiving unit receives vehicle outside-image information from an obstructive object that obstructs a field of view ahead of a vehicle equipped with the vehicle outside-image display apparatus.*; (Sato; Fig. 22, Item 161 & Fig. 27; [0125 - 0132]) – for an image receiving unit or memory unit that receives vehicle outside information from an obstructive object on Fig. 27. “...an outside image data memory 162 for storing an image obtained by the blind spot camera 13a as the different imaging means, a viewpoint image

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data memory 161 for storing a viewpoint image obtained by the driver's viewpoint camera 13b...” [0125]; Sato further discloses a outside image display displays the obstructive object obstructs a field of view ahead of another vehicle (See Fig. 27); but, Sato fails to disclose the other vehicle is also equipped with the similar display system. However, Sakamoto discloses a network of plurality of vehicles equipped with the similar display apparatus which can receive navigation data from one another. (Fig. 50; Col. 18, line 4 -7) “...first of said plurality of vehicles incorporates a car navigation apparatus and transmits navigation data obtained by said car navigation apparatus from the first card key loaded thereon, and each of the others of the plurality of vehicles includes a display apparatus, and receives the navigation data...”. Since both inventions are analogous art addressing a vehicle system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the transmission of navigational data in network of vehicles to be share on each individual display with Sato's the image receiving system to better improve the transmission between vehicles in order to exchange information and images effectively, because this will allow the system to transmit more essential information from other sources to better enhance the user's knowledge of the surrounding.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US Pub. 20030108222) in view Franz. (WO/2003/060826).

In regard to claim 6, *further comprising: a following distance measuring unit that measures a following distance between a vehicle equipped with the vehicle outside-image display apparatus and a vehicle ahead thereof; and a field-of-vision condition determining unit that*

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determines, with the following distance measuring unit, whether or not a forward field of vision is blocked, wherein vehicle outside-image information is received from the image receiving unit when it is determined that the forward field of vision is blocked by the vehicle ahead.

Sato discloses a distance sensor (Fig. 22, Item 155) measures the distance of the vehicle equipped with an image display with a predetermined distance or obstacle, “distance sensor 155 detects that the moving distance reaches or exceeds a predetermined distance...” [0091] & “a distance detecting means such as a distance-measuring sensor for measuring the distance between the outside obstacle and the car...” [0157] please see Fig. 27 for another vehicle ahead or the obstacle. Also, Sato further discloses blocking of vision or blind spots of the vehicle and outside image is received from the image receiving unit. “...an outside image data memory 162 for storing an image obtained by the blind spot camera 13a as the different imaging means, a viewpoint image data memory 161 for storing a viewpoint image obtained by the driver's viewpoint camera 13b...” [0125]. but fails to disclose a determining unit which determines whether the vision is blocked. However, Franz discloses a device for determining if or not there is visual obstruction based an analysis of the recorded image from an image sensor. “According to the invention, a signal is generated based on the analysis of the recorded image of the image sensor. This signal indicates the presence of obstructions of view and, optionally, the type of obstruction of view.” (Page 1, Abstract) Since both inventions are analogous art addressing a image processing system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Sato’s image processing system for blocking of vision or blind spots with Franz’s device for determining if the vision is obstructed based on the analysis of the capture image to improve the overall image and distance sensing capabilities;

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because, having the determination function in the system will let the sensor know when to begin and end image processing, by doing so will greatly expand the life time of the sensor and conserve energy as a whole.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US Pub. 20030108222) in view of Ide et al. (US Pub. 20010012016 A1).

In regard to claim 8, *further comprising: a three-dimensional measuring unit that performs, by a three-dimensional measuring instrument, a three-dimensional measurement for an environment in a picture range captured by the vehicle outside-image capturing unit; and a measurement value combining unit that combines the three-dimensional measurement value received by the measurement value receiving unit with the three-dimensional measurement value acquired by the three-dimensional measuring unit.* Sato discloses a unit for measurement unit for distance in support of a condition or environment in a picture range (Fig. 27 & 28) captured or stored by the storing means being displayed. “a car body data storage means for storing car body data of the vehicle, in which the predetermined distance is determined based on the data stored in the car body data storage means” [0020] & “a distance detecting means such as a distance-measuring sensor for measuring the distance between the outside obstacle and the car...” [0157]. Sato further discloses a combining means to combine the three-dimensional information of the car body data with the acquired information of the measuring device to form an image. (Fig. 24; [0102] & [0111]) However, Sato fails to disclose the measure unit is a three- dimensional measuring unit. However, Ide discloses a three-dimensional measuring apparatus just can scan

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surrounding area to create an image. “The three-dimensional measuring apparatus 1 includes an optical system 10 for transmitting and receiving the pulsed lights, a scanning mechanism 30, and an optical system 40 for taking a monitor picture...” [0028]. Since both inventions are analogous art addressing a measuring system, Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the measuring unit of Sato with the three dimensional measuring apparatus of Ide to improve the accuracy of the measuring device, because this will improve picture quality and precision for the vehicle’s display.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAKEE FANG whose telephone number is (571)270-7219. The examiner can normally be reached on Monday-Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Patel Ramesh can be reached on (571)272-3688. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAKEE FANG/

Examiner, Art Unit 4146

/Ramesh B. Patel/

Supervisory Patent Examiner, Art Unit 4146